REMARKS

This paper is being provided in response to the Final Office Action dated April 22, 2005 for the above-referenced application. In this response, Applicants have canceled claims 3, 25, 32 and 54, amended claims 26, 55, and 73-89 and added new claims 90 and 91 in order to clarify that which Applicants deem to be the invention. Applicants respectfully submit that the amendments to the claims, and the new claims (which are duplicates of claims 32 and 54), are all supported by the originally filed application.

In response to the objections to the claims at the bottom of page 2 and top of page 3 of the Office Action, applicant has renumbered the misnumbered claims, canceled claims 32 (which is being presented again as new claim 90), and canceled claim 54 (which is being presented again as new claim 91). Accordingly, Applicants respectfully request that this objection be withdrawn.

The rejection of claims 25, 26- 28, 55- 61, and 81-89 under 35 U.S.C. 101 as being directed to non-statutory subject matter has been addressed by claim amendments provided herein in accordance with the guidelines set forth in the Office Action. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 3 and 25 under 35 U.S.C 102(e) as being anticipated by U. S. patent number 6,718,481 to Fair has been made moot by cancellation of those claims herein. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 32, 33, 37, 54, 55, 59, 63, 64, 68, 72, 73, 77, 81, 82, and 86 under 35 U.S.C. 102 (e) as being anticipated by U. S. patent number 6,502,205 to Yanai, et al. (hereinafter "Yanai") is hereby traversed and reconsideration thereof is respectfully requested. Applicants note that claims 32 and 54 have been canceled herein and presented again as new claims 90 and 91, respectively.

Independent claim 33 recites a method of transferring data from a first storage device to a second storage device. The method includes synchronously transferring the data from the first storage device to a first buffer device, asynchronously transferring the data from the first buffer device to a second buffer device, synchronously transferring the data from the second buffer device to the second storage device, wherein the first buffer device acknowledges successful transfer of the data to the first storage device prior to the first buffer device completing transfer of the data to the second buffer device, and providing the data from the first buffer device to the second buffer device using a network, wherein the data is provided from the first storage device in a first format and is provided to the network in a second format that is different from the first format. Claims 37 and 90 depend from claim 33.

Independent claim 55 recites a computer program product, implemented in a computer readable medium, that transfers data from a first storage device to a second storage device. The computer program product is recited as including executable code that synchronously transfers the data from the first storage device to a first buffer device, executable code that asynchronously transfers the data from the first buffer device to a second buffer device, executable code that

synchronously transfers the data from the second buffer device to the second storage device, where the first buffer device acknowledges successful transfer of the data to the first storage device prior to the first buffer device completing transfer of the data to the second buffer device, and executable code that provides the data from the first buffer device to the second buffer device using a network, wherein the data is provided from the first storage device in a first format and is provided to the network in a second format that is different from the first format. Claims 59 and 91 depend from claim 55.

Independent claim 63 is directed to a method of transmitting data from a first storage device to a second storage device. The method is recited as including the second storage device receiving the data from the first storage device and the first storage device providing the data to the second storage device using a network, where the data is acknowledged to the first storage device as being successfully received at the second storage device prior to all of the data being provided to the network. Claims 64 and 68 depend from claim 63.

Independent claim 72 is directed to a device that transmits data from a first storage device to a second storage device. The device is recited as including means for the second storage device to receive the data from the first storage device and means for the first storage device to provide the data to the second storage device using a network, where the data is acknowledged to the first storage device as being successfully received at the second storage device prior to all of the data being provided to the network. Claims 73 and 77 depend from claim 72.

Independent claim 81 is directed to a computer program product, implemented in a computer readable medium, that transmits data from a first storage device to a second storage device. The computer program product is recited as including executable code that causes the second storage device to receive the data from the first storage device and executable code that causes the first storage device to provide the data to the second storage device using a network, wherein the data is acknowledged to the first storage device as being successfully received at the second storage device prior to all of the data being provided to the network. Claims 82 and 86 depend from claim 81.

Yanai discloses a data mirroring system where data written from a host to a primary storage device is mirrored from the primary storage device to a secondary storage device. As indicated at lines 51- 54 of column 7, which describe figure 1, a host computer system 12, coupled to a first and primary data storage system 14, writes data to and reads data from the primary data storage system 14. Data is transferred from the primary data storage system 14 to a secondary data storage system 46 independent of, and without intervention from, one or more host computers (see, for example, lines 59-63). Figure 21 illustrates control logic for a link adapter provided in connection with transmission between the primary is storage device and the secondary storage device. As indicated in the text describing figure 21, acknowledgment of receipt of the data is reported to the host *after* the data has been successfully transmitted. For example, receipt of the acknowledgment is reported to the host adapter at the step 551 *after* the test step 547 determines if receipt of the transmitted data has been acknowledged by the secondary storage device. Thus, in figure 21 of Yanai (as well as other locations of Yanai), the data is not acknowledged as being successfully

received *unless and until* the data it is in fact successfully received (e.g., the step 551 is not executed until *after* the test at the step 547 indicates successful receipt of the data by the secondary storage device).

In contrast, all of the current independent claims of the present application specifically recite data being acknowledged to the source as being successfully received at the destination *prior to* all of the data being provided to the destination (i.e., *prior to* all of the data being provided to the network used to transmit data from the source to the destination). This feature of the present claimed invention is neither shown, taught, nor suggested by Yanai, which in all cases appears to teach acknowledging receipt of data only *after* the data has been received and not, as provided in connection with the present claimed invention, *prior to* the data being received in, in fact, *prior to* the data being provided to the network used to transmit the data.

As discussed in the present application, this feature of the present claimed invention allows for superior throughput by providing a mechanism wherein a sender, rather than waiting for transmission of data through a network, may instead proceed as if the data had been received even though the data has not yet even been placed on the network for transmission. The buffering devices of the present claimed invention allow this operation by handling transmission of data through the network to the secondary storage device and, as described in the application, provide for recovery processing in the event that data is not successfully transferred to the secondary source device even though the data is acknowledged as having been received to the source device prior to the data being actually transmitted through the network.

Furthermore, the disclosure of Yanai appears to contemplate only a system whereby receipt of the data is not acknowledged to the source until *after* the data is successfully received at the destination. There does not appear to be any mechanism disclosed in Yanai for acknowledging receipt of the data to the source *prior to* actual receipt of the data (or, in some cases, *prior to* actual transmission of the data via the network) as set forth in the present claimed invention. Accordingly, applicant respectfully requests that this rejection be withdrawn.

The rejection of claims 4 and 26 under 35 U.S.C 103(a) as being unpatentable over US patent number 6,721,286 to Williams et al. (hereinafter "Williams") in view of Yanai is hereby traversed and reconsideration thereof is respectfully requested.

Claim 4 is directed to a method of transmitting data from a source to a destination. The method is recited as including receiving the data from the source and providing the data to the destination using a network, where the data is acknowledged to the source as being successfully received at the destination prior to all of the data being provided to the network and where the data is provided from the source in a first format and is provided to the network in a second format and is received by the destination in a third format, where the second format is different from at least one of: the first format and the second format.

Claim 26 is directed to a computer program product, implemented in a computer readable medium, that transmits data from a source to a destination. The computer program product is recited as including executable code that receives the data from the source and executable code that provides the data to the destination using a network, where the data is acknowledged to the

source as being successfully received at the destination prior to all of the data being provided to the network, where the data is provided to from the source in a first format and is provided to the network in a second format and is received by the destination in a third format and where the second format different from at least one of: the first format and the third format.

The Yanai reference is discussed above.

As set forth in the Office Action, Williams teaches the method of transmitting data from a source to a destination comprising: receiving data from the source wherein the data is provided from the source in a first format and is provided to the network in a second format and is received by the destination in a third format wherein the second format is different from at least one of: the first format and the second format. The Office Action also indicates that Williams fails to explicitly teach providing the data to the destination using a network where the data is acknowledged to the source as being successfully received at the destination prior to all of the data being provided to the network.

Applicant notes that independent claims 4 and 26, like independent claims 33, 55, 63, 72, and 81, recite the feature of data being acknowledged to the source as being successfully received at the destination *prior to* all of the data being provided to the destination (i.e., prior to all of the data being provided to the network used to transmit data from the source to the destination). As discussed above, Yanai does not appear to show, teach, or suggest this feature but, instead, appears to teach only acknowledging receipt to the source *after* the data has in fact been received by the secondary storage device. Accordingly, Applicant respectfully submits that the deficiencies of

Yanai discussed above with respect to independent 33, 55, 63, 72, and 81 (which recite this feature also found in claims 4 and 26) are not overcome by the addition of the Williams reference. Accordingly, Applicant respectfully requests that this rejection be withdrawn.

The rejection of claims 5, 6, 9, 10, 27, 28, 34, 35, 38, 39, 56, 57, 60, 61, 65, 66, 67, 69, 70, 71, 74, 75, 76, 78, 79, 80, 83, 84, 85, 87, 88, and 89 under 35 U.S.C. 103(a) as being unpatentable over Williams and Yanai in view of Applicant's admitted prior art (hereinafter "APA") is hereby traversed and reconsideration thereof is respectfully requested.

All of the claims set forth in this rejection depend from one of the independent claims discussed above in connection with the rejection under 35 U.S.C. 102 based on Yanai or the rejection under 35 U.S.C. 103 based on the combination of Yanai and Williams.

Applicant respectfully submits that the deficiencies of Yanai or the combination of Yanai and Williams with respect to the independent claims, discussed above, are not overcome by the addition of the APA. Accordingly, Applicant respectfully requests that this rejection he withdrawn.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 617-248-4038.

Respectfully submitted,
CHOATE, HALL & STEWART

Date: July 12, 2005

Donald W. Muirhead
Registration Number 33,978

Customer No.: 26339
Patent Group
Choate, Hall & Stewart
53 State Street
Boston, MA 02109
(617) 248-5000